

# Texas General Land Office Coastal Stewardship Division



Jerry Patterson  
Commissioner

# Update of the Texas Coastal Erosion Planning and Response Program (CEPRA)

presented at the  
2004 USACE  
Dredging Conference  
September 21, 2004



Texas General Land Office  
Coastal Resources  
Coastal Stewardship Division



Bill Peacock - Deputy Commissioner,  
Coastal Resources

Eddie Fisher - Director, Coastal Stewardship Div.

Lorrie Council - CEPRA Team Leader

Matthew Mahoney - Project Manager

Dr. Juan Moya - Project Manager

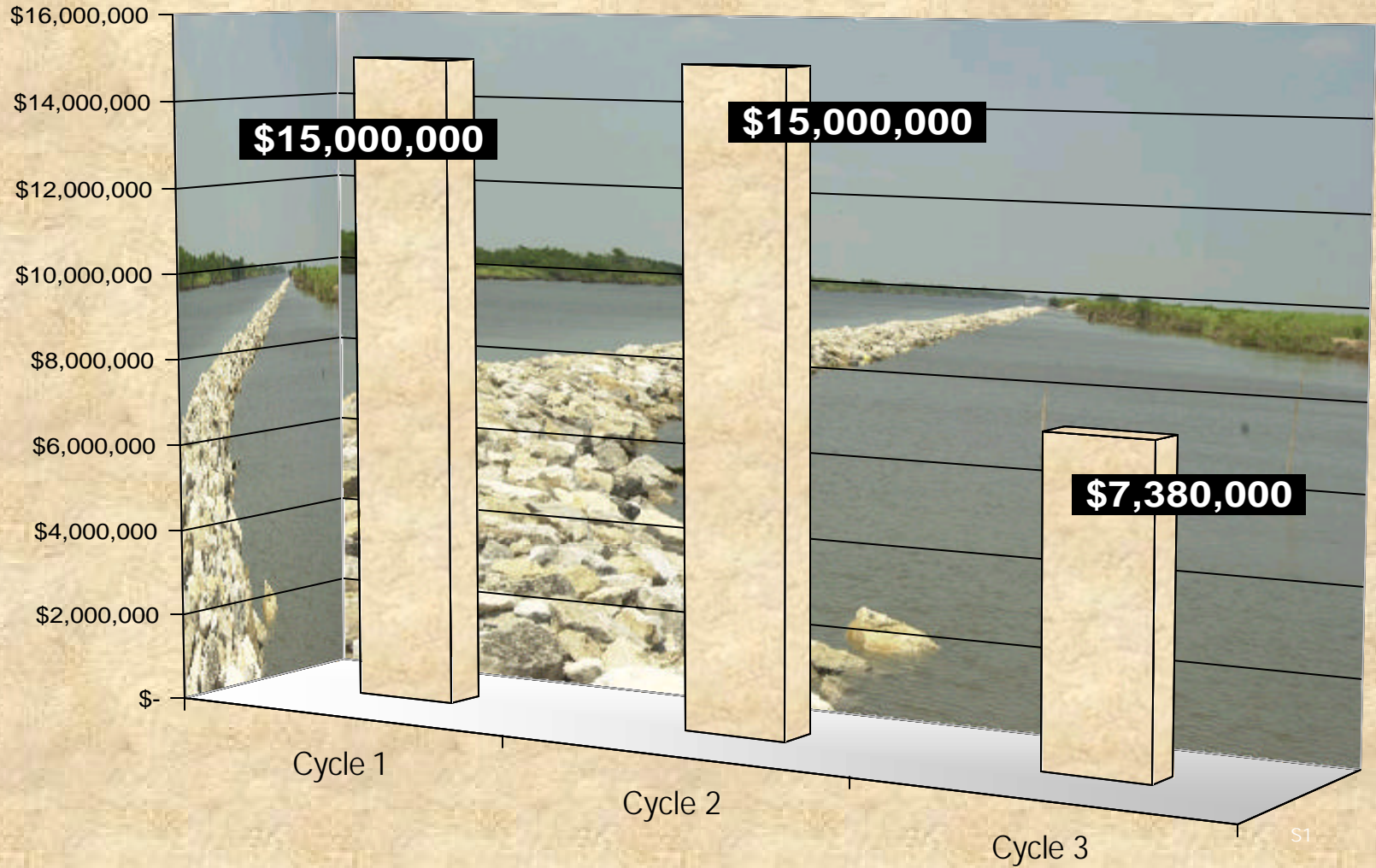
Dennis Rocha - Project Manager

Thomas Durnin - Planner

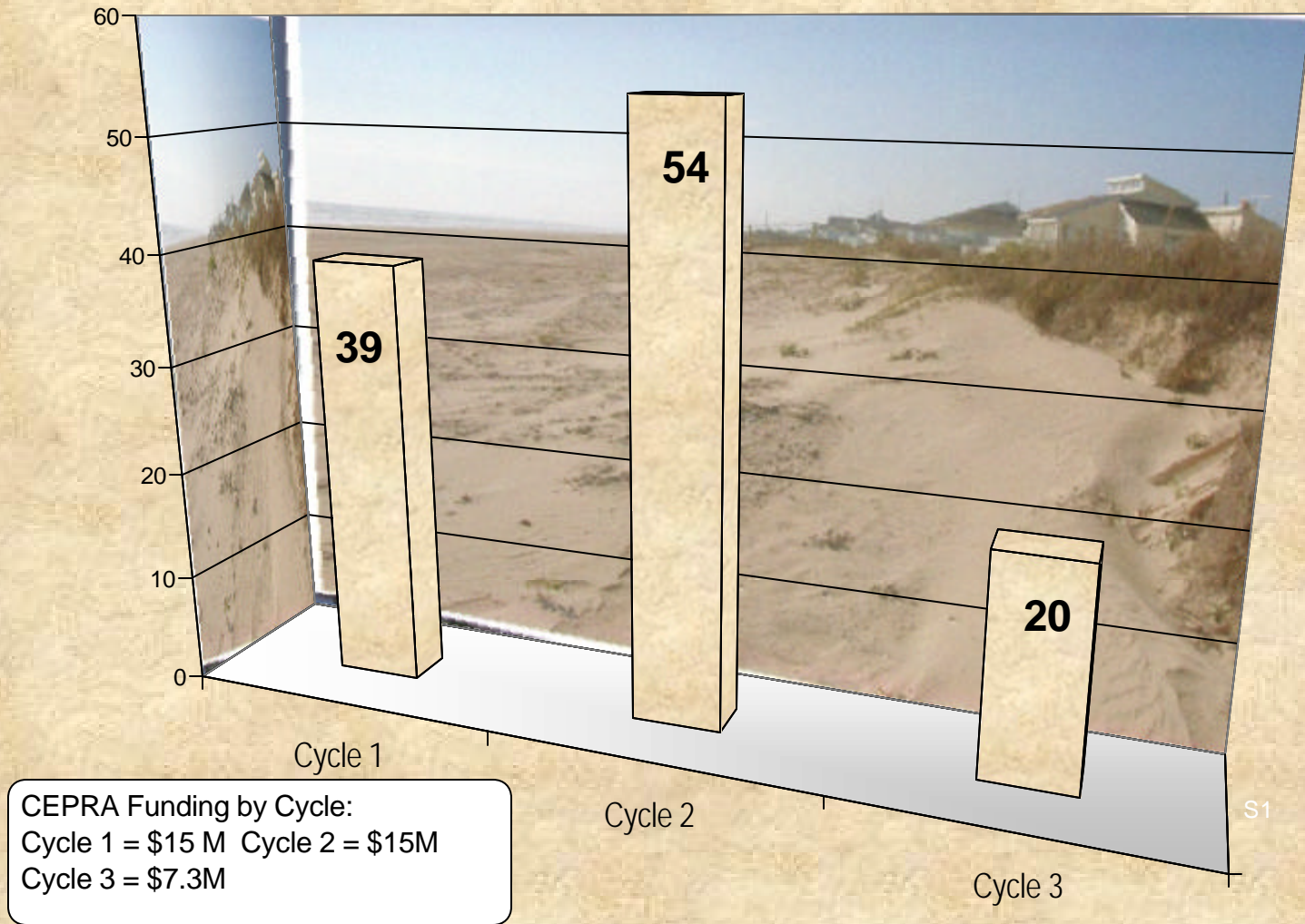
# Coastal Erosion Planning and Response Act (CEPRA)

- Enacted by Texas Legislature in 1999.
- State Funding:
  - Cycle 1 (FY-2000-2001) \$15 million
  - Cycle 2 (FY 2002-2003) \$15 million
  - Cycle 3 (FY 2004-2005) \$7.38 million
- Match requirements for Cycle 3:
  - Beach Projects - 75% CEPRA, 25% Partner
  - Marsh Projects - 60% CEPRA, 40% Partner

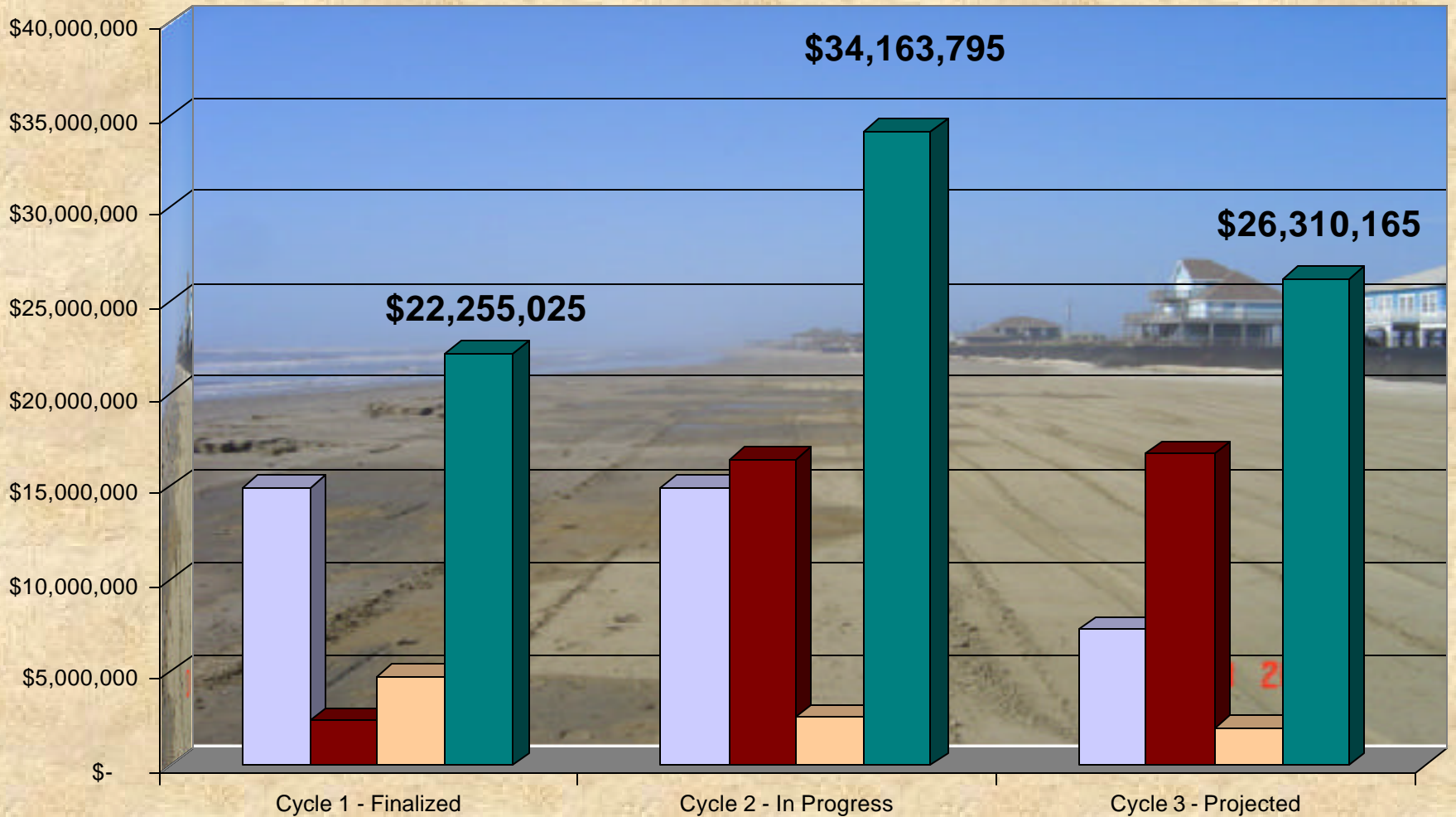
## CEPRA Funding Cycles 1,2,3



## Number of Funded CEPRA Projects - Cycles 1,2,3



## Total Project Funding CEPRA Projects Cycles 1,2 & 3



CEPRA Funds Federal Funds Other Partner Funds Total Project Value



# CEPRA Goals

- **Protect Public Infrastructure.**
- **Protect and Restore Valuable Habitat.**
- **Protect Public and Private Property.**
- **Protect the Natural Resources and Economic Future of Texas Gulf Coast.**
- **Partner with Local, State, and Federal Agencies to Leverage Resources.**

# Types of CEPRA Projects

- **Beach Nourishment**
- Dune Restoration
- Marsh Restoration
- Shoreline Protection
- Beneficial Use of Dredged Material

# Beach Nourishment



Gilchrist Beach, Galveston County

# Types of CEPRA Projects

- Beach Nourishment
- **Dune Restoration**
- Marsh Restoration
- Shoreline Protection
- Beneficial Use of Dredged Material

# Dune Restoration



McFaddin NWR Dune Restoration

# Types of CEPRA Projects

- Beach Nourishment
- Dune Restoration
- **Marsh Restoration**
- Shoreline Protection
- Beneficial Use of Dredged Material

# Marsh Restoration



Moses Lake-Texas Coastal Prairie Preserve

# Types of CEPRA Projects

- Beach Nourishment
- Dune Restoration
- Marsh Restoration
- **Shoreline Protection**
- Beneficial Use of Dredged Material

# Shoreline Protection



McFaddin NWR-GIWW Shoreline

# Types of CEPRA Projects

- Beach Nourishment
- Dune Restoration
- Marsh Restoration
- Shoreline Protection
- **Beneficial Use of Dredged Material**

# HB 2794

77th Texas Legislature, 2001

“...beach-quality sand dredged in constructing and maintaining navigation inlets and channels of the state shall be placed on eroding beaches or to restore eroding wetlands wherever practicable.”

# Beneficial Use of Dredged Material



South Padre Island Beach Nourishment

# Sand Sources/Borrow Sites

1. Private Sources
  - River Banks
  - Sand Pits
2. Beneficial Use of Dredged Material (Gulf and Bays)
3. Offshore Sand Sources
  - Dynamic Sand Banks
  - Holocene-Pleistocene Sand Bodies
  - Pleistocene Incised River Channels

# USACE Sabine Pass to Galveston Bay, Texas Shoreline Erosion Study

## Study Components:

- Regional Hydraulic and Shoreline Change Modeling
- Economic Analysis
- Alternatives Analysis
- Modeling Alternatives
- Environmental Impact Study
- Sand Source Investigation**

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# Sand Source Investigation Target Areas

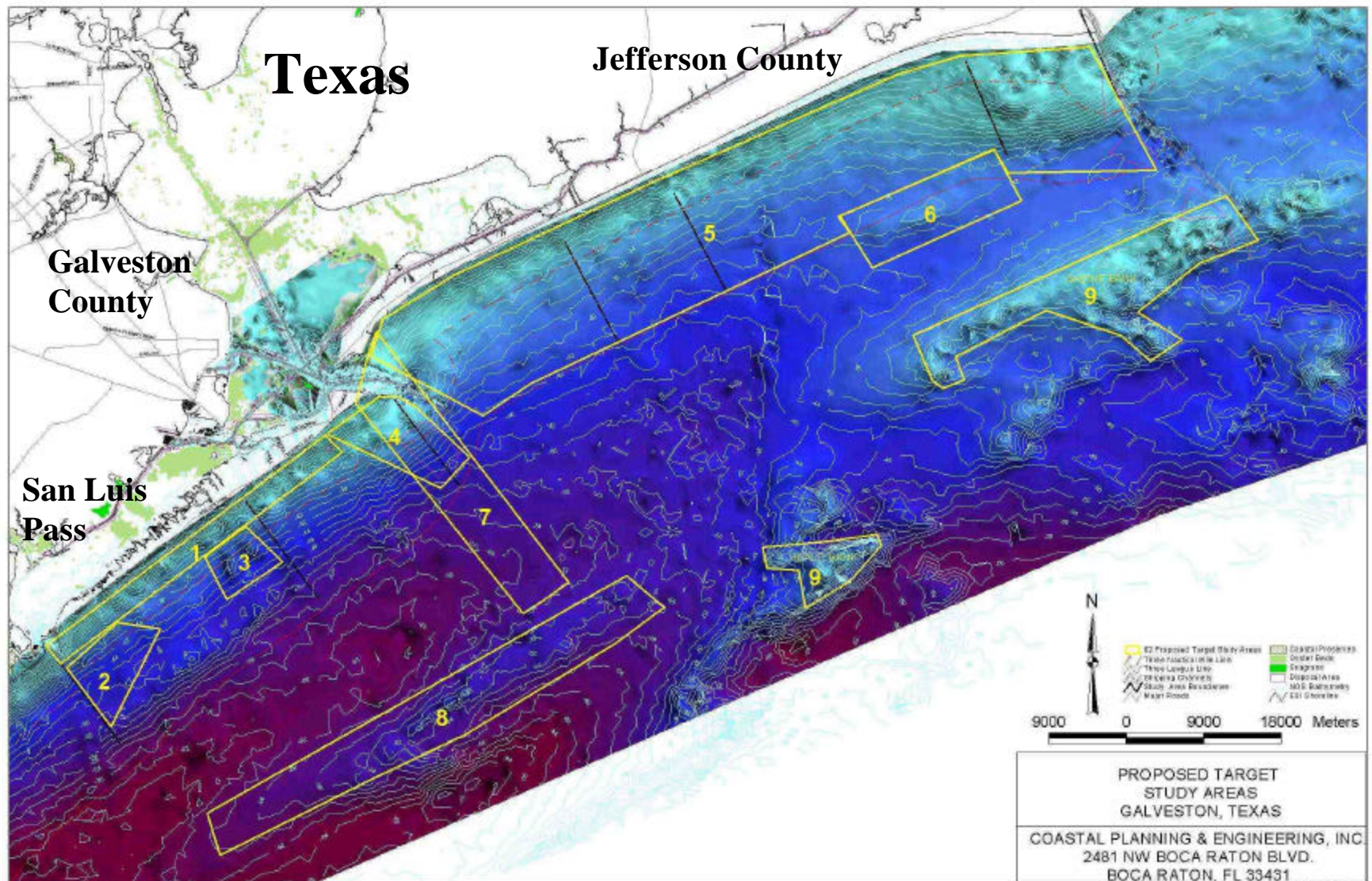
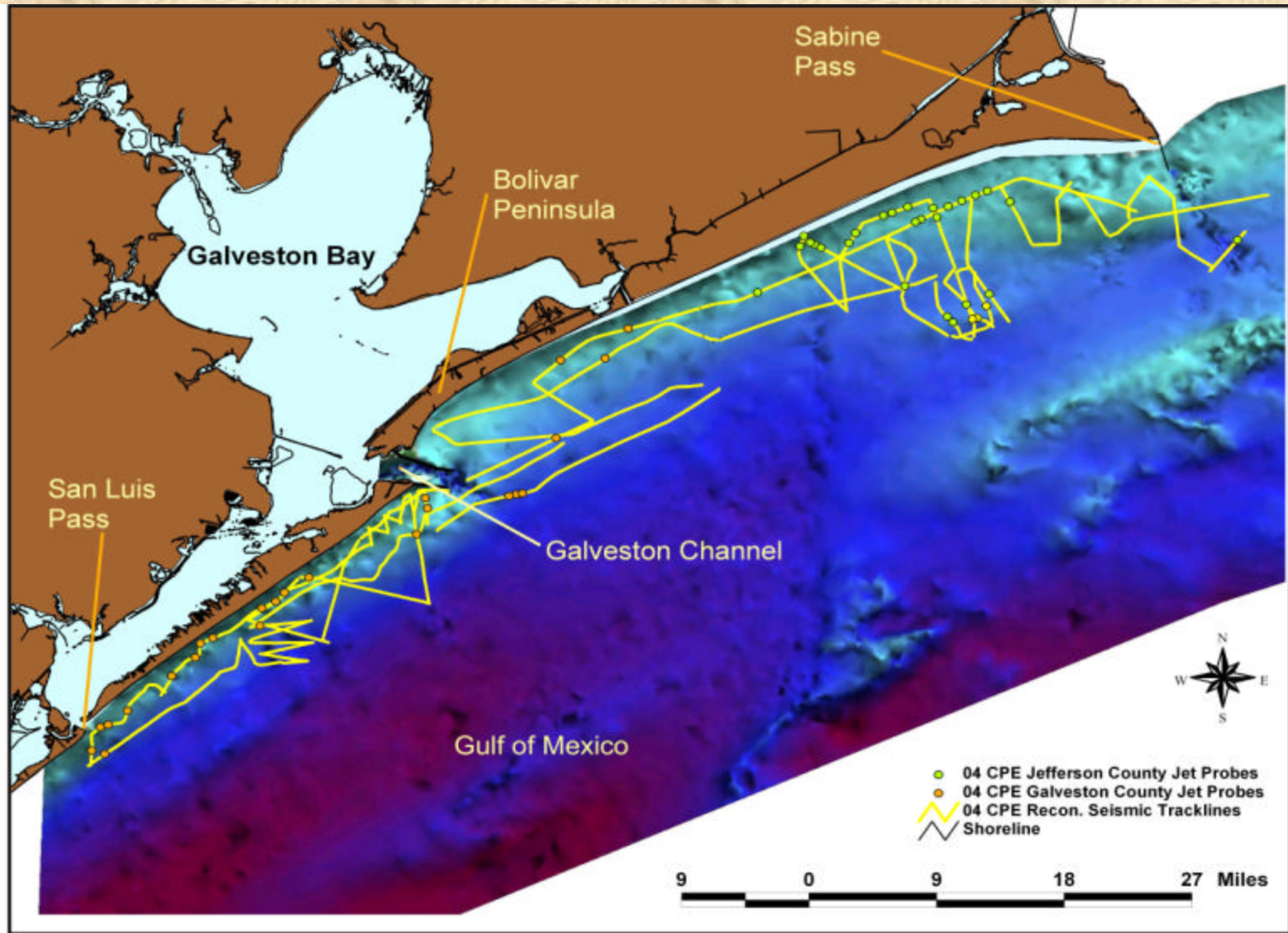


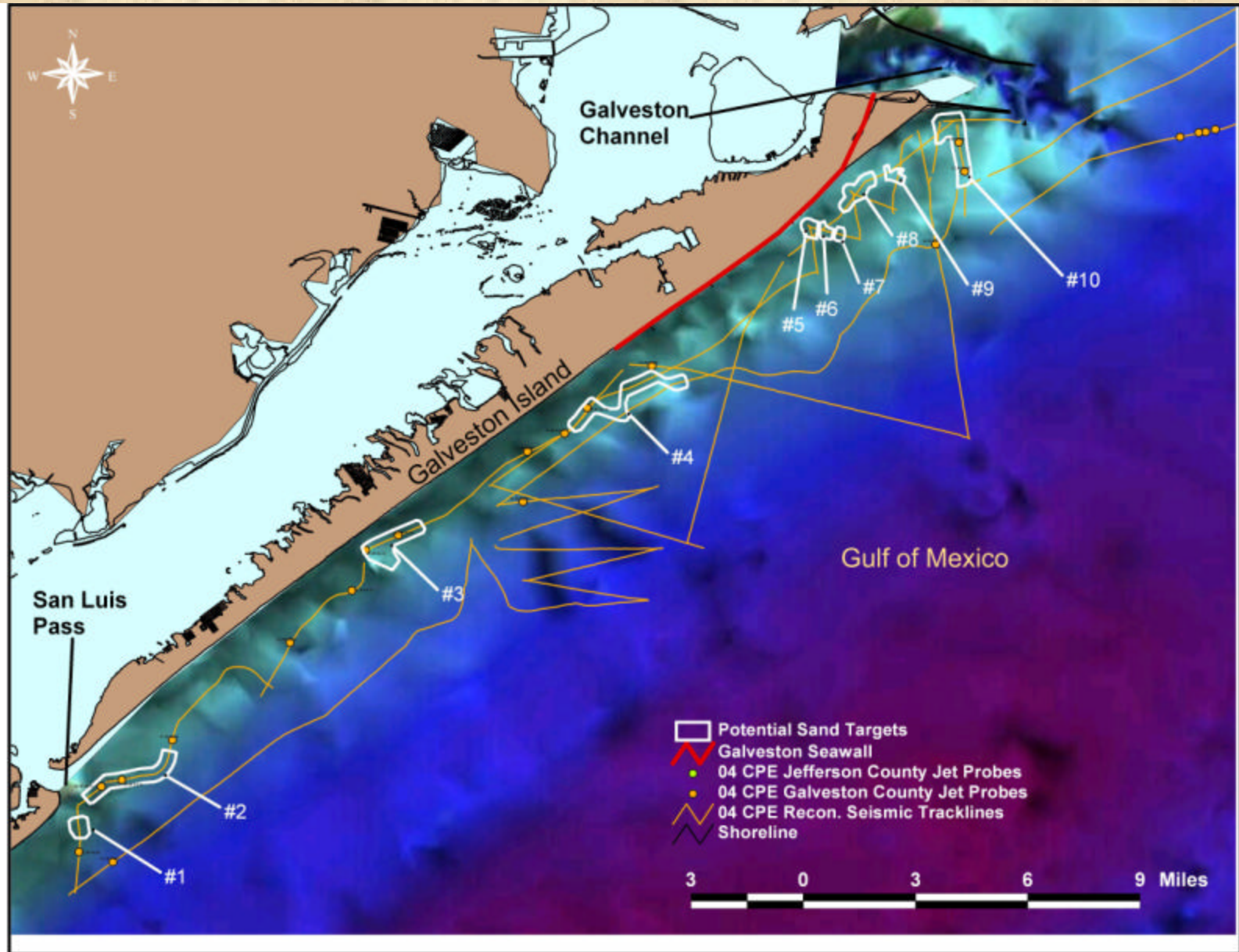
FIGURE 24

# Geophysical and Physical Investigations

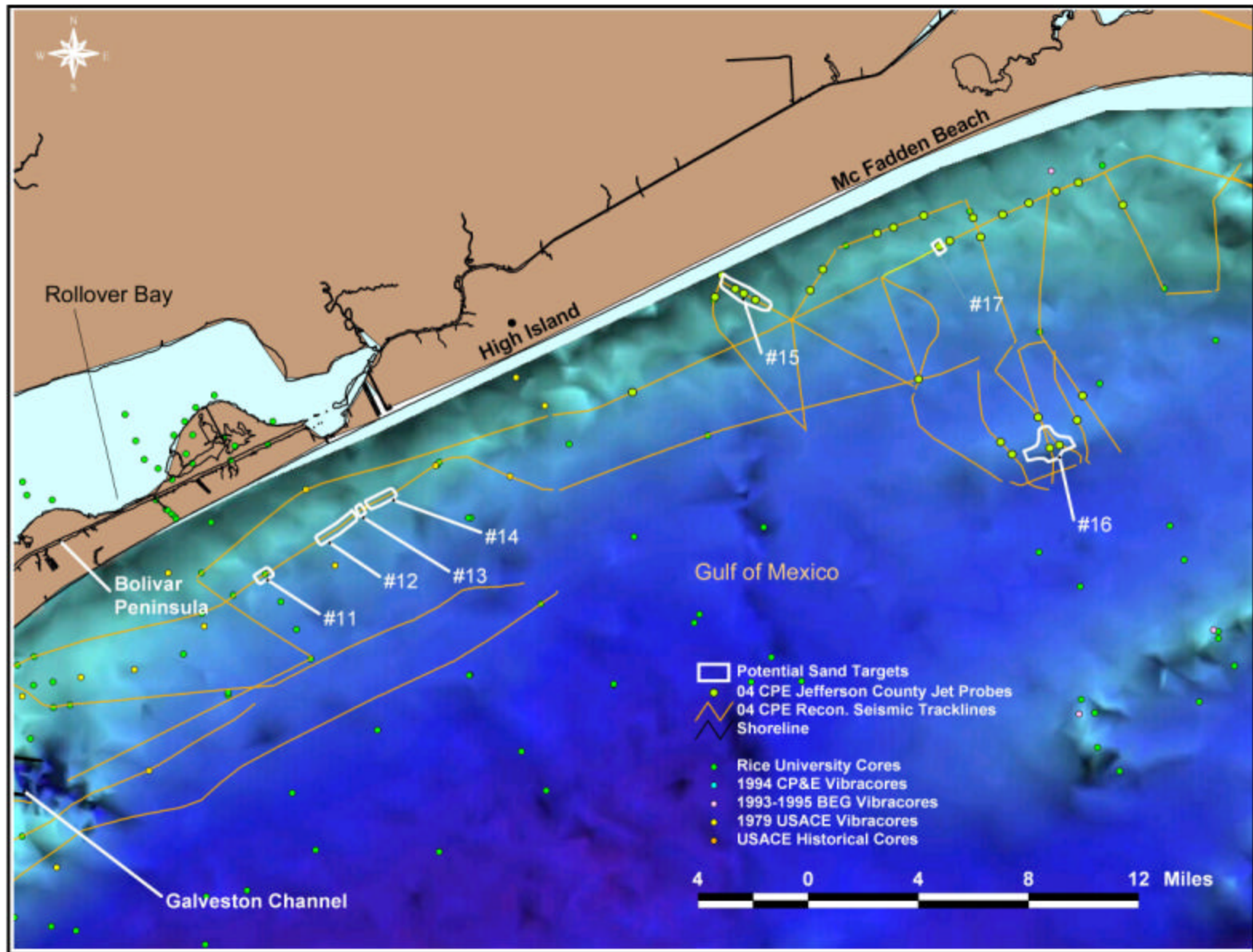
## Location of Seismic Lines and Physical Probes



# Location of Potential Sand Sources



# Location of Potential Sand Sources



<b>Deposit ID</b>	<b>Thickness Range (ft)</b>	<b>Minimum Volume<sup>(1)</sup></b>	<b>Maximum Volume<sup>(3)</sup></b>	<b>Average Volume</b>	<b>County</b>
<b>1</b>	5 to 12	1,330,000	3,190,000	2,260,000	Galveston
<b>2</b>	3 to 21	3,250,000	22,750,000	13,000,000	Galveston
<b>3</b>	3 to 20	2,800,000	19,000,000	10,900,000	Galveston
<b>4</b>	3 to 8	3,800,000	10,000,000	6,900,000	Galveston
<b>5</b>	3 to 12	580,000	2,320,000	1,450,000	Galveston
<b>6</b>	3 to 10	370,000	1,200,000	785,000	Galveston
<b>7</b>	3 to 8	265,000	700,000	482,500	Galveston
<b>8</b>	3 to 12	1,510,000	6,000,000	3,755,000	Galveston
<b>9</b>	6 to 9	985,000	1,500,000	1,242,500	Galveston
<b>10</b>	4 to 45	4,200,000	47,200,000	25,700,000	Galveston
<b>11</b>	2 to 4	480,000	960,000	720,000	Galveston
<b>12</b>	3 to 8	2,600,000	5,200,000	3,900,000	Galveston
<b>13</b>	3 to 8	405,000	810,000	607,500	Galveston
<b>14</b>	6 to 10	2,500,000	4,200,000	3,350,000	Galveston
<b>15</b>	3 to 20	2,965,000	19,768,500	11,350,000	Jefferson
<b>16</b>	3 to 15	3,326,500	16,632,000	9,979,000	Jefferson
<b>17</b>	4 to 18	466,500	2,333,000	1,400,000	Jefferson
		31,833,000	163,763,500	97,781,500	<b>Total</b>
		25,075,000	125,030,000	75,052,500	<b>Galveston</b>
		6,758,000	38,733,500	22,729,000	<b>Jefferson</b>

# Overview of Regional Reconnaissance Level Investigation

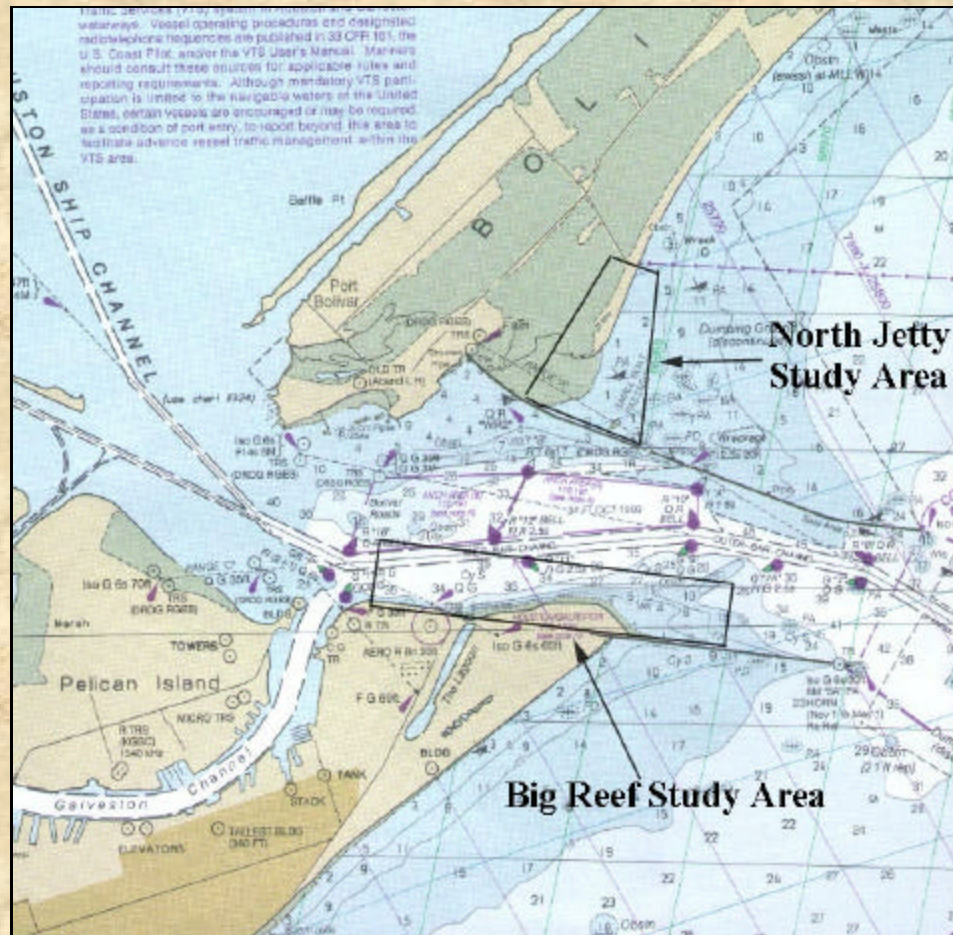
**About 100 million cy of potential sand sources available**

- *Approximately 26.5 million cy in Jefferson County*
- *Approximately 74.4 million cy in Galveston County*

## NEXT STEP

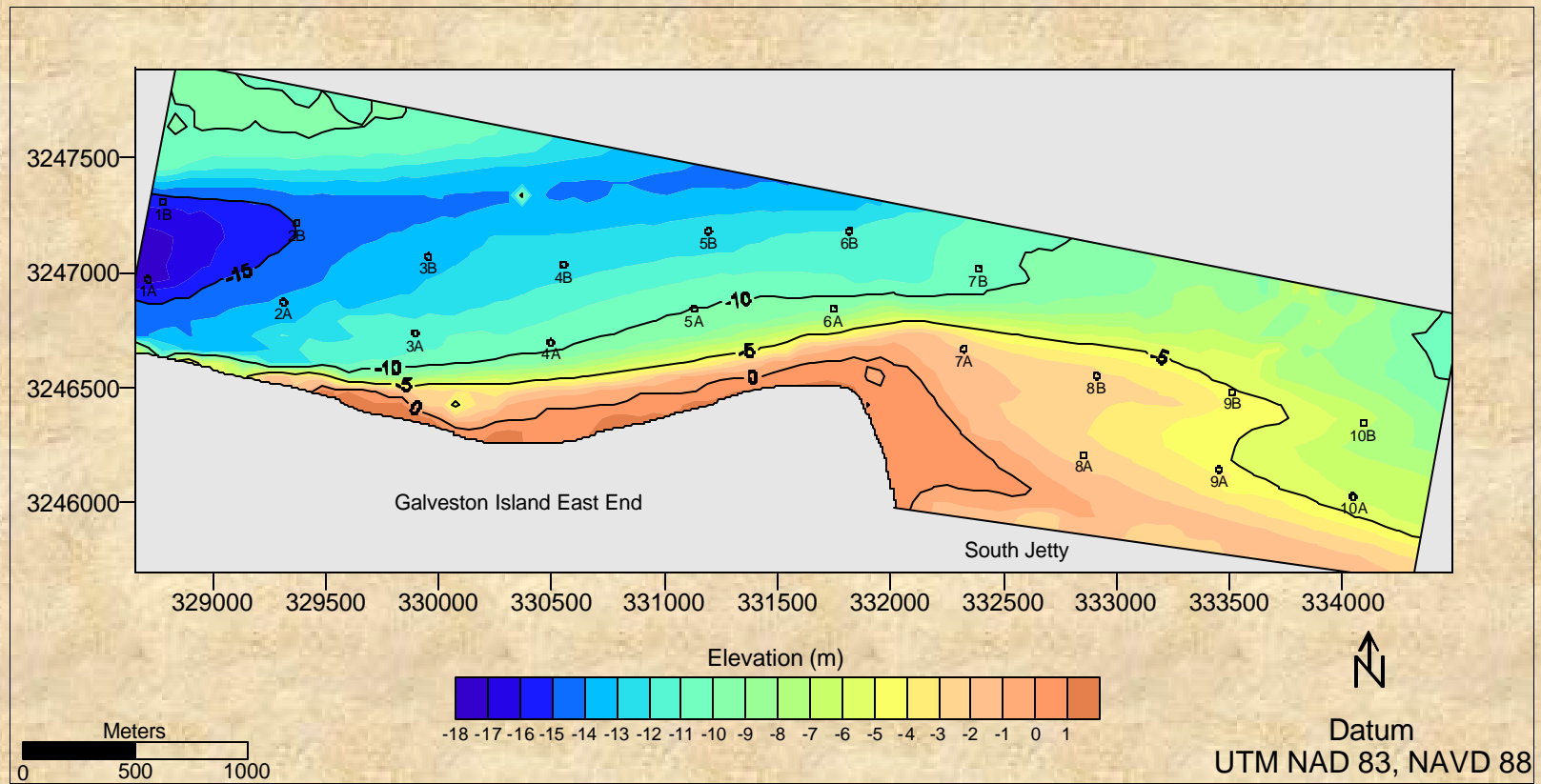
- **verify regional estimates with detailed investigation**
  - **permit locations for beach nourishment**
    - **dredge material and nourish beach**

# Other Sand Sources Being Investigated by CEPRA



# Big Reef Area Inside Houston Ship Channel

(Used for 150,000 cy project in 2002, however much more material is available but not permitted)







# For More Information on the Coastal Erosion Planning and Response Act Program

- **Web: [www.glo.state.tx.us](http://www.glo.state.tx.us)**
- **Email: [coastalprojects@glo.state.tx.us](mailto:coastalprojects@glo.state.tx.us)**
- **Phone: 800/998-4456**